



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/542,632	07/19/2005	Kenji Hatada	TIP-05-1196	6878
35811 7590 10/10/2007 IP GROUP OF DLA PIPER US LLP ONE LIBERTY PLACE 1650 MARKET ST, SUITE 4900 PHILADELPHIA, PA 19103			EXAMINER HON, SOW FUN	
			ART UNIT 1794	PAPER NUMBER
			MAIL DATE 10/10/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/542,632	Applicant(s) HATADA ET AL.	
	Examiner Sow-Fun Hon	Art Unit 1772	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 July 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>7/05</u> | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-2, 6-10, 12-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Arakawa (JPO Website Machine English Translation of JP 11-202104).

Regarding claim 1, Arakawa teaches a display panel in drawing 7, wherein a lens film 10 is arranged between a display unit 35 and a light source 21 of a back light system 20 ([0028]), the lens film 10 containing an electroconductive layer 2 ([0016]) which is an electroconductive polymer layer (polyethylene dialkoxy thiophene conductive coat agent, [0029]).

Regarding claim 2, Arakawa teaches that the electroconductive polymer layer (conductive layer 2, PEDT, [0029]) is stacked on a polymer film (polyester base material film 1, drawing 1, [0029]).

Regarding claims 6-7, Arakawa teaches that the electroconductive polymer contained in the electroconductive polymer layer is a thiophene polymer (polyethylene dialkoxy thiophene conductive coat agent, [0029]).

Regarding claim 8, Arakawa teaches that the thiophene polymer is polyethylenedioxythiophene (a.k.a. polyethylene dialkoxy thiophene (PEDT) conductive coat agent, [0029]).

Regarding claim 9, Arakawa teaches that the electroconductive polymer layer further comprises polystyrenesulfonic acid ([0029]).

Regarding claim 10, Arakawa teaches that the thickness of the electroconductive polymer layer is 100 nanometers (0.1 micrometers, [0029]), which is within the claimed range of about 60 nm or more and about 300 nm or less.

Regarding claims 12-13, Arakawa teaches that the display panel further comprises a light diffusing layer (diffusion film 25, [0028], drawing 7), which means that the layer has light scattering performance since it scatters light to provide the light diffusing effect, which results in a brightness enhancement performance since the light diffusing effect causes greater uniformity in light distribution and hence greater luminance.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 3-5, 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arakawa as applied to claims 1-2, 6-10, 12-13 above, and further in view of Aben (US 6,404,120).

Arakawa teaches a display panel, wherein an electroconductive polymer layer is arranged between a display unit and a light source of a back light system, as discussed

Art Unit: 1772

above. In addition, Arakawa teaches that the electroconductive polymer layer is a polyethylenedioxythiophene (a.k.a. polyethylene dialkoxy thiophene (PEDT) conductive coat agent, [0029]). Arakawa fails to teach that the surface resistivity of the polyethylenedioxythiophene layer is within the range of about $1 \times 10^4 \Omega/\square$ or less, let alone about $5 \times 10^3 \Omega/\square$ or less; that the total light transmittance thereof is about 80% or more, let alone about 85% or more; or that the spectral light transmittance thereof at the 400 nm wavelength is about 85% or more.

However, Aben teaches that the surface resistivity of the polyethylenedioxythiophene layer can be reduced from $5 \times 10^4 \Omega/\square$ (50 k Ω/\square , column 1, lines 55-65) to $1 \times 10^3 \Omega/\square$ (1 k Ω/\square , column 2, lines 31-36), which is well below $5 \times 10^3 \Omega/\square$, for the purpose of providing the desired protection from electromagnetic radiation (shielding against electromagnetic radiation, display screen, column 2, lines 1-10) as well as static electricity (antistatic, column 1, lines 64-67).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have reduced the surface resistivity of the polyethylenedioxythiophene layer of Arakawa, to within the range of about $1 \times 10^4 \Omega/\square$ or less, or about $5 \times 10^3 \Omega/\square$ or less, in order to provide the desired protection from electromagnetic radiation as well as electrostatic electricity, as taught by Aben.

Furthermore, Aben teaches that the total light transmittance thereof is about 80% (average transmission (380 – 780 nm) 80% for a layer thickness of about 300 nm, abstract), and that the spectral light transmittance at 400 nm wavelength of the electroconductive polymer layer is greater than 85% (Fig. 3, transmission T, high

Art Unit: 1772

transmission in blue wavelength range, between 400 and 650 nm, the transmission is at least 80%, column 7, lines 39-44), for the purpose of providing the display with the desired light transmission (column 2, lines 17-27).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have provided the polyethylenedioxythiophene layer of Arakawa, with a total light transmittance within the range of about 80% or more, or about 85% or more, and a spectral light transmittance at 400 nm wavelength within 85% or more, in order to provide the display with the desired light transmission, as taught by Aben.

Regarding claim 11, Arakawa fails to teach that particles are incorporated into the electroconductive polyethylenedioxythiophene layer.

However, Aben teaches that metal oxides are mixed into the polyethylenedioxythiophene layer, for the purpose of reducing the surface resistivity and increasing light transmission (sheet resistance, transmission in excess of 60%, column 2, lines 35-45). The inorganic metal oxides are incompatible with the polyethylenedioxythiophene, and are therefore in particulate form (mixed PEODT/SiO₂ layer, column 8, lines 21-25).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have incorporated metal oxide particles into the electroconductive polyethylenedioxythiophene layer of Arakawa, in order to reduce the surface resistivity and to increase the light transmission, as taught by Aben.

Art Unit: 1772

3. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Arakawa as applied to claims 1-2, 6-10, 12-13 above, and further in view of Drain (US 2003/0206256 A1).

Arakawa teaches a display panel, wherein an electroconductive polymer layer is arranged between a display unit and a light source of a back light system, as discussed above. In addition, Arakawa teaches that the display unit is a display unit using liquid crystal (liquid crystal display, [0028]). Arakawa fails to disclose that the back light system uses cold cathode fluorescent lighting.

However, Drain teaches that in conventional backlit liquid crystal display panels, the back light system uses cold cathode fluorescent lighting as a linear light source [0005].

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have provided the back light system of Arakawa with cold cathode fluorescent lighting, in order to provide a linear light source for a conventionally backlit liquid crystal display panel, as taught by Drain.

4. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Arakawa (JPO Website Machine English Translation of JP 11-202104) in view of Drain (US 2003/0206256 A1).

Arakawa teaches a back light system 20 using a light source 21 and an arranged lens film 10 ([0028]), the lens film 10 containing an electroconductive layer 2 ([0016]) which is an electroconductive polymer layer (polyethylene dialkoxy thiophene conductive coat agent, [0029]). Arakawa teaches that the back light system 20 is used

Art Unit: 1772

in a liquid crystal display panel 35 [0028]. Arakawa fails to teach that light source 21 is a cold cathode fluorescent lighting.

However, Drain teaches that in conventional backlit liquid crystal display panels, the back light system uses cold cathode fluorescent lighting as a linear light source [0005].

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have provided the back light system of Arakawa with cold cathode fluorescent lighting, in order to provide a linear light source for a conventionally backlit liquid crystal display panel, as taught by Drain.

Art Unit: 1772

Any inquiry concerning this communication should be directed to Sow-Fun Hon whose telephone number (571)272-1492. The examiner can normally be reached Monday to Friday from 10:00 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye, can be reached on (571)272-3186. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

S. Hon.

Sow-Fun Hon

9/17/07